**Characterization of polymer modified Gulf asphalts**

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Petroleum Science and Technology
Vol. 17, Issue.39084, 1999

**Abstract:** The rheological properties of polymer modified Arab asphalts were characterized using both routine test methods, such as penetration and softening point, and more rigorous methods, which included low temperature stiffness measurements using a bending beam rheometer, and dynamic mechanical analysis using dynamic shear rheometer. HP-GPC method of analysis was used to produce profiles of the molecular size distribution of the modified asphalts. Models were built to predict the rheological and performance-based properties from the HP-GPC profiles. The results indicated that polymer modification is capable and effective in improving the neat Arab asphalt binders rheological properties to meet and satisfy the performance requirements of the Gulf countries.